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C mplete if Known **Application Number** Filing Date Herewith **First Named Inventor** Budach et al. Art Unit **Examiner Name** to be assigned Attornéy Docket Number 021430-000212US

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US-5,716,854

US-5,738,825

US-5,770,462

**U.S. PATENT DOCUMENTS** Document Number Publication Date Name of Patentee or Applicant of Cited Document Pages, Columns, Lines, Where Number Kind Code<sup>2</sup> (if known) Examiner MM-DD-YYYY Relevant Passages or Relevant Figures Appear PIC AΑ US-4,810,658 03/07/1989 Shanks et al. AB US-4,828,387 05/09/1989 Sawyers et al. AC US-4,882,288 11/21/1989 North et al. ΑD US-4,931,384 06/06/1990 Layton et al. AE US-4,952,056 08/28/1990 Tiefenthaler AF US-4,978,503 12/18/1990 Shanks et al. AG US-4,992,385 02/12/1991 Godfrey ΑН US-5,006,716 04/09/1991 Hall ΑI US-5 082 629 01/21/1992 Burgess et al. ΑJ US-5,164,589 11/17/1992 Sjödin AK US-5,186,897 02/16/1993 Eason et al. AL US-5,192,502 03/09/1993 Attridge et al. ΑМ US-5,208,111 05/04/1993 Decher et al. ΑN US-5,242,828 09/07/1993 Bergström et al. AO US-5,294,402 03/15/1994 Schrepp et al. AΡ US-5,312,729 05/17/1994 Allen et al. AQ US-5,374,563 12/20/1994 Maule AR US-5.415.842 05/16/1995 Maule AS US-5,434,663 06/18/1995 Maule AT US-5,436,161 06/25/1995 Bergström et al. ΑU US-5,455,178 10/03/1995 Fattinger ΑV US-5,468,620 11/21/1995 Molloy et al. ĀW US-5,478,756 12/26/1995 Gizeli et al. AX US-5,480,687 01/02/1996 Heming et al. ΑY US-5,491,556 02/13/1996 Stewart et al. ΑZ US-5,492,840 02/20/1996 Malmovist et al. BA US-5,532,170 07/02/1996 Buckle et al. BB US-5,554,541 09/10/1996 Malmovist et al. BC US-5,631,734 05/20/1997 Stem et al. BD US-5.641.640 06/24/1997 Hanning ΒE US-5,663,790 09/02/1997 Ekströrn et al. BF US-5,712,705 01/27/1998 Fattinger et al.

Examiner Date PATRICK CONNOLLY Signature 5,11.7004 Considered

Löfås et al.

Helmut Rudigier et al.

Molloy

02/10/1998

04/14/1998

06/23/1998

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Substitute for form 1449/PTO Complete if Known **Application Number** INFORMATION DISCLOSURE Filing Date Herewith STATEMENT BY APPLICANT **First Named Inventor** Budach et al. Art Unit (use as many sheets as necessary) **Examiner Name** to be assigned Page of 4 Attorney Docket Number 021430-000212US

		Document Number	,	T T	
xaminer	Cite No.1	Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
<b></b> アし	BJ	US-5,779,978	07/14/1998	Hartmann et al.	тіделез Афреві
<u>i</u>	ВК	US-5,822,472	10/13/1998	Danielzik et al.	
4	BL	US-5,830,766	11/03/1998	Attridge et al.	
	ВМ	US-5,846,843	12/08/1998	Simon	
- ! ]	BN	US-5,874,219	02/23/1996	Rava et al.	
- :	ВО	US-5,898,503	04/27/1999	Keller et al.	
1	BP	US-5,912,456	. 06/15/1999	Melendez et al.	
i	BQ	US-5,946,083	08/31/1999	Melendez et al.	
	BR	US-5,955,729	09/21/1999	Nelson et al.	- ///
1	BS	US-5,959,292	09/28/1999	Duveneck et al.	<del>/-</del>
	BT	US-5,965,456	10/12/1999	Malmqvist et al.	
	BU	US-5,972,612	10/26/1999	Malmovist et al.	
1	BV	US-5,981,956	11/09/1999	Stem	1//
1	- BW -	US-6,078,705	06/20/2000	Neuschäfer et al.	1/1
1	вх	US-6,093,536	07/25/2000	Drake et al.	
i	BY	US-6,111,248	08/29/2000	Melendez et al.	
į	BZ	US-6,111,652	08/29/2000	Melendez et al.	
. (	CA	US-6,127,183	10/03/2000	Ivarsson et al.	
!	CB	US-6,141,096	10/31/2000	Stern et al.	1
1	CC	US-6,143,574	11/07/2000	Karlsson et al.	
	CD	US-6,183,696	02/06/2001	Elkind et al.	
	CE	US-6,191,847	02/20/2001	Melendez et al.	
	CF	US-6,198,869	03/06/2001	Kraus et al.	
	CG	US-6,200,814	03/13/2001	Malmqvist et al.	
	CH	US-6,203,989	03/20/2001	Goldberg et al.	
	CI	US-8,207,381	03/27/2001	Larsson et al.	
	CJ	US-6,207,960	03/27/2001	Stem	
ł Ł	CK	US-6,211,954	04/03/2001	Danielzik et al.	
	CL	US-6,218,194	04/14/2001	Lyndin et al.	
	СМ	US-6,225,625	05/01/2001	Pirrung et al.	
	CN	US-8,245,578	06/12/2001	Mollay	
	co	US-6,252,236	06/26/2001	Trulson et al.	
	CP	US-8,289,144	09/11/2001	Neuschäfer et al.	
	CQ	US-6,289,286	09/11/2001	Andersson et al.	
771	CR	US-6,294,327	09/25/2001	Walton et al.	

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Examiner Initials*	Cite No.1	For	Foreign Patent Document				Pages, Columns, Lines,	
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code® (If	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appylar	   <sub> </sub>
PIL	· cs	wo	97/29362	PCT	08/14/1997		<del></del>	-
	CT	EPO	0 178 083		04/16/1986			<del>                                     </del>
	CU	UK	2 227 089	· <del>'</del>	07/18/1990		<del> </del>	_
	CV	UK	2 256 477		12/09/1992			
	CW	WO	90/03382	PCT	04/05/1990			
	СХ	wo	91/16425	PCT	10/31/1991		·	-
	CY	EPO	0 455 067	A2	11/06/1991			
	CZ	WO .	92/10092	PCT	06/25/1992			
	DA	WO	95/33197	PCT	12/07/1995		/	· ·
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	DC	wo	96/35940	PCT	11/14/1996			
	DD	WO	97/02357	PCT	01/23/1997			
	DE.	wo	98/21571	PCT	05/22/1998	8-32-		-
	DF	WO	98/27430	PCT	06/25/1998			
	DG	wo	99/13320	PCT	03/18/1999			
	DH	WO	99/26059	PCT	05/27/1999		<del></del>	<u>-</u> :
1	DI	WO	00/75644	A1	12/21/2000	·	<del></del>	<u> </u>
PTL	DJ	WO	01/02839	A1	01/11/2001		<del> </del>	

	NON PATENT LITERATURE DOCUMENTS						
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>				
pic	DK	Adlard, et al., The American Physical Society, Physical Review Letters, Vol. 79, No. 9, "Localization of One-Photon States," pp. 1585-1587, (1997)					
M	DL	Parriaux, et al., Pure Appl. Opt. 5, Printed in the UK, "Coupling gratings as waveguide functional elements," pp. 453,469 (1996)					
856	DM	Rosenblatt, et al., IEEE Journal of Quantum Electronics, Vol. 33, No. 11, "Resonant Grating Waveguide Structures," November, 1997					
BL	DN	Dolder, et al., Derwent Abstracts, 1991-339813 [46], "Method for the Light-Induced Immobilization of Biomolecules on Chemically "inert" Surfaces" (WO 91/16425 - 10/31/91)	<del>                                     </del>				

Examiner Signature	PATRICK	CONNOLLY	Date Considered	511.2004	
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Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, senal, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T 2
PJC	DO	Sychugov, et al., Sensors and Actuators, B 38-39, "Waveguide Coupting Fratings for High-Sensitivity Biochemical Sensore," pp. 360-364 (1997)	
p-)C	DP	Tyagi, et al., Nature Biotechnology, "Molecular Beacons: Probes that Fluoresce Upon Hybridization," Vol. 14, pp. 303-308 (March 1996)	
170	DQ	Wang, et al., Applied Optics, Vol. 32, No. 14, "Theory and Application of Guided-Mode Resonance Filters," (May 10, 1993)	
ρ'n	DR	Kogelnik, H., "Theory of Optical Waveguides," ed. Tamit, T., Guided-Wave Optoelectronics, pp. 7-88, Springer-Verlag: New York, (1988)	

Examiner Signature	PATRICK CONNOLLY	Date Considered	5.11.2004
			3,11, 200

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